

MEETING MINUTES (FINAL)

CITY OF TUCSON HABITAT CONSERVATION PLAN

Technical Advisory Committee

Wednesday, January 17, 2007, 1pm to 3pm

Arizona Game and Fish Department Meeting Room

Tucson, Arizona 87545-3612

ATTENDEES

City of Tucson Technical Advisory Committee: Trevor Hare (Sky Island Alliance), Rich Glinski, Linwood Smith, Marit Alanen (USFWS), Mima Falk (USFWS), Dennis Abbate (AGFD), Ralph Marra (Tucson Water Department), Brian Powell, (Tucson Audubon Society), Guy McPherson (UA)

Other Attendees: Cathy Crawford (AGFD), Jaimie Galayda (Arizona State Land Department), Ann Phillips and Leslie Liberti (COT – Office of Conservation and Sustainable Development), Geoff Soroka (SWCA), Lori Anderson (Coalition for Sonoran Desert Protection), Karen LaMartina (Tucson Water Department)

1. Minutes from 11-21-06 and 12-05-06 meetings were emailed last week for TAC review. Ann reported that Trevor and Rich had reviewed them and approved them, as is. Tucson Water provided comments on the 12-05-06 set of minutes, which Ann reviewed during the meeting. Some members of the TAC wanted more time to review the minutes, so minutes were not yet adopted at this meeting.

2. Survey updates

Ann reported that all contracts have been signed and contractors are undertaking work as follows:

- Phil Rosen will commence herpetology surveys in Avra Valley in early spring if there has been rain this winter. Trevor asked whether the surveys will proceed even if there is no rain.
- Courtney Conway's crew began resurveying the farms in Avra Valley last week that are earmarked for buffelgrass treatment. So far, the crew has found 4 active burrows with pairs. These have been marked appropriately so that the burrows are not driven over and collapsed during the upcoming mowing of the grass. Grass will be sprayed as soon as the first green-up occurs in late winter or spring.
- Travis Bean will begin mapping in early February, and will conduct seed bank surveys following the buffelgrass spraying.
- Marc Baker is hoping to start cacti surveys in the expanded study area in the Southlands. There are some issues with obtaining a permit to conduct work on State Land that need to be worked out.

3. Avra Valley HCP

Geoff provided a handout containing summary of proposed changes to the Southlands HCP species accounts. The Southlands HCP is scheduled for discussion at the next TAC meeting. Also in that handout, Geoff provided responses to questions posed at the last TAC meeting regarding the monitoring approach for the Avra Valley HCP. A draft of Section 6 of the Avra Valley HCP, titled “Monitoring and Adaptive Management”, was also handed out. Yellow highlighted items indicate text that was added as a result of the additional monitoring-related research conducted in response to requests made by the TAC. The monitoring updates included the items below:

- Yellow Billed Cuckoo (YBC)

At the last TAC meeting, it was suggested that Tucson Audubon Society’s on-going avian surveys at the North Simpson site could function as the monitoring element for YBC that may occur there. Brian said that call and play-back surveys are what he recommends for detecting YBC, and that these surveys would be most effective in June before these birds are nesting. He was familiar with the TAS survey protocol and said that the typical late July/August summer survey period would not be adequate to detect YBC. He suggested that the TAC look into another survey method that would be focused specifically on YBC activity during a three-week period in June. Cathy asked Dennis A. if AGFD was doing any surveys in Avra Valley, and mentioned that she would check with Mike Ingraldi to see if she and Scott Blackman could conduct these surveys.

- Pale Townsend’s Big Eared Bat (PTBB)

PTBB is not usually found under bridges, so it is unlikely to be present at the Trico Road Bridge on the eastside of the North Simpson site. However, PTBB does roost in soil piping caves. Geoff visited examples of these with Don Carter of Pima County along Cienega Creek. Such caves apparently need to be big enough for a full-sized human to walk into according to Don. Geoff surveyed cut banks at the North Simpson site for any potential erosion caves. Don accompanied Geoff for a survey of cut banks along the Brawley Wash to assess the possibility that any appropriately-sized soil piping caves may exist there. PTBB travels only 4 to 5 miles from its roosts for foraging, per the literature Geoff has referenced. So when looking at potential roost sites, they should be in proximity to foraging area. Based on Geoff’s survey, the North Simpson site did not contain cavities that could potentially be used as roosting sites by PTBB, as no cavities were observed exhibiting the same characteristics as those found at Cienega Creek. The North Simpson site has loose, silty soils rather than the clayey soils found at Cienega Creek. The Brawley Wash had somewhat more potential to form cavities of sufficient size for bats, but no cavities of the size needed were observed when both sides of the Brawley Wash were surveyed by Geoff and Don. The potential existed at Brawley Wash for caves used as roosting sites to form, due to the clayey soil present and the erosion and soil piping evident, but nothing of appropriate size was there currently. Geoff wondered whether a more involved survey would be needed. Dennis A. asked if there was potential that openings might have larger hidden cavities. Geoff said that no, the Brawley banks did not contain the

vegetation structure necessary, mainly mesquite bosque, to support the soil conditions that would favor the creation of large cavities.

- Snake Salvage Surveys

Geoff reported that Phil Rosen did not think it was worth pursuing salvage surveys for snakes during construction activities because the snakes would be damaged, such surveys are costly, and salvage surveys are not very effective. Phil reported to Geoff that there is not much information available about the depths below land surface for which these species normally occur during inactivity. Dennis A. asked whether, if ideal surveys conducted during ideal conditions are not finding snakes, salvage surveys would help show the presence of species in the area at a manageable cost and be as efficient as more formal surveys. Trevor noted that he didn't think Tucson shovel-nosed snakes have been seen since the 1980s. Geoff said 1979 might have been the last sighting. Dennis A. posed the question of whether the placement of cover boards a few months before clearing would help biologists be able to detect and remove snakes prior to construction. Brian said that cover boards would not be used by herps that fast; it could take several years. Cathy verified this. Dennis A. wondered what the literature says about this, whether there were different results for different areas. Dennis A. noted that AZGFD is gearing up to do snake work outside Avra Valley, possibly using cover boards, drift nets and other technique, so there may be more data in a year or two about the success of these strategies in the area. Leslie noted that with the tweaking of the conservation area, the priority conservation area covered is just shy of 80% of suitable habitat in the Avra Valley planning area; and that a large area of suitable habitat would not be impacted.

- Remote Sensing as Monitoring Tool

Geoff reported that Sam Drake, of the UA Remote Sensing Program said monitoring species will be difficult if not impossible using the 1-foot resolution mapping by Pima Co. However, you could see trends in vegetation layers though probably not for specific species (e.g. buffelgrass). Geoff reported that Sam Drake felt that ground-truthing requirements would probably be minimal for verifying vegetation layers over time, so remote sensing could help provide an idea, for example, of cover vegetation suitable for CFPO habitat. Brian cautioned against using remote sensing in lieu of ground-level surveys for species.

The discussion of Avra Valley HCP issues then continued, with Mima saying she and Scott Richardson had determined based on recent data that there are more compelling issues about potential take for the Lesser Long-nosed bat (LLNB) than previously thought. Mima stated that information will be available in about two weeks.

Geoff reported that questions about burrowing owls were posed by Dennis A. to BUOW specialists, and that Dennis A. had compiled their answers, provided in a handout. AZGFD doesn't have a formal management plan for burrowing owls at this time. Experts are starting to work on a raptor management plan, but a draft is not expected anytime soon. General guidelines are available for BUOW in construction areas. Cathy mentioned that the protocol for BUOW relocation and surveys is in its final stage of preparation and

will be on the website soon. Cathy reported that Elissa Ostergaard of AZGFD said relocated BUOWs have not been closely tracked and should be looked at more closely. Trevor said homebuilders relocating populations in Tucson should be paying for monitoring and management.

Dennis A. said there are no exhaustive monitoring plans for BUOW, but some 20 release sites are monitored, with BUOW looked at for sighting of bands and demographic factors. BUOW can migrate, so there is a complex combination of moving and nonmoving birds. Even with bands, scientists cannot determine if animals die or move. The primary way to find out is radio telemetry, which is expensive and complicated. You need airplane surveys and a long-term effort is required. Dennis A. said that he does not know if it is possible to get solid information about BUOW unless you invest in this type of study.

Trevor asked about the effectiveness of relocation efforts. Young may be born but are they predated by raptors? Dennis A. said that on the north side of the North Simpson site, owls were released but a lot of raptors are also present and there are mammalian predators. Selection criteria for release sites need to be closely evaluated, but sometimes there is time pressure to release birds so they will not be held for too long. It is hard to manage hundreds of birds in captivity. Rich asked whether relocating birds might have negative impacts on local populations. He wondered if owls that currently are slated to be released should be held until the impacts of relocation are known. Dennis A. said that holding 350 birds a year is difficult. Trevor noted that BUOW may be in Avra Valley because agriculture is present, which is a converted landscape in itself. Rich was concerned that releases are negatively impacting the demographics of the owls, and while he promotes the use of BOMAs he is concerned about the impact to resident burrowing owls of releasing hundreds of owls in their winter / breeding territories. Rich wondered if the influx of relocated birds is disruptive to the breeding and foraging success for those already present. Cathy said that AZGFD has the same concerns about relocation. Trevor saw 60 percent mortality in rattlesnakes hacked outside their home range. Dennis noted that birds can keep moving until they find favorable sites if they don't like the hacking sites, and unlike CFPO, BUOW can get up and fly over obstacles, which affects their selection of areas to occupy. Rich countered that these birds will still seek "suitable habitat" that likely is occupied by BUOW, or will be used by dispersing local individuals or wintering birds from northern climes.

Dennis A. said AZGFD is moving birds in response to development needs. He noted that better information is needed, but he didn't know if the capacity is available to do more extensive research.

Brian asked if BUOWs are habitat-limited here. Leslie said Courtney has seen the best reproductive success along washes, rather than agricultural land so she wondered if that was their historic habitat. Brian noted that there could be other reasons as well for breeding adjacent to riparian habitat. Geoff noted that it is hard to figure out how to specify success in the HCP in light of these questions about the impacts of relocation.

Trevor suggested checking on programs in California and Canada to see what results they are getting.

Dennis A. reported that 50-75 percent of BUOW young are lost each year, so mortality plays into this equation as well. It's not known what percent of young/offspring-of-the-year are moving compared to adult birds, but we might know more about survival if these groups could be distinguished. Marit will check with personnel who issue relocation permits to see if there is data collected regarding adults versus juveniles. Geoff mentioned that SWCA has done some BUOW relocation work with Wild at Heart and has obtained the needed permits. Based on this he said the data collected and reported each year is not very detailed.

Rich commented on the lack of data on impacts of development on the species and said it is probably not good for wild populations along the Santa Cruz to have this influx of birds relocated from elsewhere. He was concerned that seemingly there is no specific agency taking responsibility for this and there appears to be no one following up on band recovery. He contended that this species needs to be championed, and that this is not currently happening. Dennis A. noted that if it was a listed species that would trigger a whole series of concerns and funding. But Rich compared it to the Desert tortoise, which isn't listed but does have champions. Dennis A. is hoping that some of the holes in data will be filled through the continued work of David Grandmaison and Courtney Conway. Rich said that someone needs to pull all the data together and coordinate conservation activities for the BUOW.

Leslie brought the discussion back to the HCP in Avra Valley, asking whether BOMAs should be used for hacking sites for birds from outside Avra Valley. Based on the responses Dennis A. obtained, it looks like there is no advantage to local populations for the establishment of BOMAs that bring in birds from outside Avra Valley. The only advantage appears to be to owls that have been moved. Should the BOMAs in Avra Valley be used only as passive relocation sites for owls coming in on their own? Trevor thought there should be two BOMAs for hacking and two left vacant for passive relocation. If no owls show up in the passive sites, then hacking could be conducted there. Experts should determine the distance between the BOMAs. Trevor felt that displaced owls that had been using the desert (from central AZ developments) should remain in the desert, but wondered if there were any differences between the desert BUOWs from outside Avra Valley, compared to those naturally occupying Avra Valley. Rich expressed concern that as BUOW density increases in Avra Valley, breeding success in terms of number of offspring per pair may not increase commensurately. This phenomenon appears to happen sometimes with bald eagles.

Trevor suggested looking into the literature to see if information was available on a threshold of BUOW numbers that would impact conditions. Leslie wondered what baseline the threshold would be compared to since there was not much historical use data and the number of nesting pairs per acre is variable. Leslie noted that there is some information in species account about nesting factors; for example, there are more dense populations around prairie dog towns where there is a dense network of holes. There is

also more density along irrigation canals and watercourses perhaps due to availability of forage. Trevor asked if the BUOW experts could make an educated estimate of baseline data for Avra Valley. Leslie suggested creating a TAC subcommittee to meet with BUOW experts to continue this discussion and asked TAC members to get their questions and concerns to her so they could be taken up by this subcommittee.

Leslie then asked TAC members to move on to Chapter 5. A draft of Section 5 of the Avra Valley HCP, titled Conservation Program, was handed out. Leslie walked members through the many changes made to Chapter 5, which were made as a result of meetings with Tucson Water to determine how to go forward with the conservation strategy. These changes now reflect the phasing of water projects by linking the reserve system--now called the Conservation Priority Areas--to individual species and on-the-ground actions. Because of previous overlap between conservation strategies for individual species, biological goals and objectives were combined into one section. A section on Other Management Issues has been added to address buffelgrass and other issues.

The section on Conservation Measures focuses on the main issues of 1) maintaining suitable habitat, 2) minimizing direct adverse impacts, and 3) promoting integrated regional conservation planning. A new section was added to address phasing. Since it is not known where and when projects will be implemented, Avra Valley farm sites have now been grouped into blocks of farms based on geography and characteristics. Leslie described 5 blocks to the TAC group and referenced tables on pages 8 through 10 that show the covered species and protected habitat for that species within each block. Trevor asked if Leslie could add a column showing Conservation Priority Acreage to each block.

Leslie explained that the next section goes into detail describing how project impacts to covered species will be mitigated, and calculating mitigation ratios. The mitigation efforts were ranked in order of priority, as follows:

- Preservation of existing suitable habitat within the CPA, in the same block
- Preservation of existing suitable habitat outside the CPA in the same block
- Preservation of existing suitable habitat within the CPA in another block within the HCP planning area
- Preservation of existing suitable habitat outside the CPA in another block within the HCP planning area
- Enhancement or restoration of potentially suitable habitat in the same block where impact is occurring
- Enhancement or restoration of potentially suitable habitat in another block within the HCP planning area
- Preservation of existing suitable habitat outside the HCP planning area.

She said the preference is preserving existing habitat. Restoration would only happen if the existing habitat saved was not suitable. Trevor asked if you get up-front mitigation credit for things that may not work. Leslie said guidelines are needed from the TAC about how to fill in mitigation requirements. She said that mitigation outside the HCP planning area is a last resort.

Leslie then explained how numbers were derived for several species. She noted that when CFPO habitat was first mapped, it was done with very coarse maps. Subsequently, Scott Richardson of USFWS looked at more detailed maps and determined whether habitat was suitable or not for CFPO. Scott's recommendations for CFPO habitat primarily relate to Block 2, and will be provided on future maps. Leslie noted that several parcels formerly not included on maps and in calculations (because no projects were planned there) do have habitat value. Among these is the Trust 205 Farm, for which Scott decided the entire parcel contained CFPO dispersal habitat. Leslie said that BUOW numbers will change a bit more after removing areas that have already been addressed under the Section 7 permit for CAVSARP, and in Clean Water Act Section 404 in-lieu mitigation areas. These changes will be carried through for all species. After discussion with Brian Wooldridge and Troy Corman, it was determined that YBC can use mesquite bosque, so potential habitat is being expanded to include this habitat as well.

Leslie clarified that the numbers of the tables in this draft chapter are generally up-to-date, but numbers in the text still need to be updated. The green highlighted numbers on the tables will undergo additional changes.

In a discussion of the conservation strategies, Trevor felt there will be a need to create a trust for monitoring and management funds and specifically mentioned a Tucson Water endowment. Leslie said a dedicated source of funding would be needed, whether in the form of a trust or some other mechanism. This mechanism will be addressed in the funding chapter later in the HCP. Cathy reiterated that the HCP needs to address funding in order to be approved.

Leslie explained that the habitat area protected by block varies between species and in some cases it may not be sufficient to mitigate within the same block, so she used mitigation ratios to deal with "out-of-block" mitigation. The ratios were based on considerations of whether habitat was used for breeding or dispersal, the sensitivity of species to disturbance, the stability of populations, and other considerations that were species-specific. Trevor asked what would happen if preserved land needed to be used for a project in the future? Ralph noted that proposed conservation approaches are still under consideration, and are not yet adopted. Leslie said that the total footprint of conservation areas still leaves a great deal of flexibility for future projects and that the CPA acreage tends to be in areas that are not suitable for development of water projects. Cathy asked whether in cases where the total number of CPA acreage is small, the mitigation ratio should be larger since there is so little habitat to begin with. Trevor requested an electronic version of the chapters be sent out so they can be run by mitigation experts.

Leslie pointed out that Table 5.3-4 shows the relationship between actions and the mitigation credit that would be obtained for each species. For snakes, there is less credit for an acre preserved outside the CPA in another block because the snakes need larger blocks of land. If preservation occurs inside the CPA, there will be larger blocks of land preserved. For BUOW, active management of land as a BOMA provided additional benefits to the species that existing habitat does not have, so there was extra credit given in that case. Leslie noted the example of natural area burrows being destroyed by floods,

which wouldn't happen in BOMAs. With regards to the PTBB, creating improved habitat by inducing soil piping is not feasible, but stabilizing soil piping caves has been tried (Don Carter stabilized a cave along Cienega Creek, but does not yet know if it will be successful). Leslie then referred to Table 5.3-5, which illustrates the resultant mitigation ratios that would be needed for each species by combining mitigation ratios from Table 5.3-3 and mitigation credits from Table 5.3-4.

Rich thought the flooded BUOW burrows were likely the hacked burrows and contended that selection of these hacking sites was based on little data to begin with. He wants to make sure old guesses about BUOW management do not become dogma because we might get locked into mitigation ratios. He felt it was important to have adaptive management rules in place to deal with future data that could provide better guidance. Leslie noted that when using the existing suitable habitat approach, you get at least a 1:1 ratio of preservation. She felt habitat that has not been cultivated has been well captured in the assessment. Rich felt that habitat might change in the future due to water developments, and holding firm to what has been mapped leaves less flexibility, so the adaptive management option was needed. Mima said that even though you put an easement on good habitat, if in the future better habitat turns up you can move the preservation area to the better habitat site, but it must be done acre for acre. Trevor said this needs to be addressed in the changed circumstances section of the report. Rich asked how this can be changed for easement land since legal determinations often aren't that easy to change. Trevor said conservation easements are not as perpetual as you would expect.

Leslie explained that in section 5.3.3, the chapter describes guidelines for maintaining habitat within the blocks. For each block she summarized key elements of the plan (size, CPA acreage, potential use, etc.), then broke down the conservation plan for each species in each block. In some cases, there may be an upper threshold limit for development within that block due to the very high quality habitat within it. For most species and for most blocks, development outside the CPA will typically not require mitigation. The exception is for cases where corridors cross east to west between the mountains, Ironwood Forest National Monument, and the Santa Cruz River for CFPO.

Leslie went on to summarize major sections in the rest of this chapter, and requested that TAC members send comments in the next two weeks on these chapters. The next TAC meeting will be the last one devoted to the Avra Valley HCP, at which time the TAC will switch back to addressing the Southlands.